Claims:

1. A single chain T cell receptor (scTCR) comprising

an α segment constituted by a TCR α chain variable region sequence fused to the N terminus of a TCR α chain constant region extracellular sequence,

a β segment constituted by a TCR β chain variable region fused to the N terminus of a TCR β chain constant region extracellular sequence, and

a linker sequence linking the C terminus of the α segment to the N terminus of the β segment, or vice versa,

the constant region extracellular sequences of the α and β segments being linked by a disulfide bond,

the length of the linker sequence and the position of the disulfide bond being such that the variable region sequences of the α and β segments are mutually orientated substantially as in native αβ T cell receptors.

2. A scTCR as claimed in claim 1 wherein a disulfide bond linking constant region extracellular sequences of the α and β segments is one which has no equivalent in native αβ T cell receptors.

3. A scTCR as claimed in claim 1 or claim 2 wherein a disulfide bond links amino acid residues in sub-sequences of the α and β segments corresponding to sequences present in the extracellular constant Ig domains of TCR α and β chains.

4. A scTCR as claimed in claim 3 wherein the disulfide bond links cysteine residues substituted for amino acid residues whose β carbon atoms are less than 0.6

nm apart in corresponding sequences of the extracellular constant Ig domains of TCR α and β chains

5. A scTCR as claimed in claim 3 or claim 4 wherein the constant region extracellular sequence present in the α segment includes a sequence corresponding to the extracellular constant Ig domain of a TCR α chain, and/or the constant region extracellular sequence present in the β segments includes a sequence corresponding to the extracellular constant Ig domain of a TCR β chain.

6. A scTCR as claimed in any of the preceding claims wherein (a) the α segment is the variable region of a TCR fused to the N terminus of the extracellular domain of the α chain constant region of a TCR α chain; and/or (b) the β segment is the variable region of a TCR β chain fused to the N terminus of the extracellular domain of the constant region of a TCR β chain.

7. A scTCR as claimed in any of claims 1 to 5 wherein the constant region extracellular sequences present in the α and β segments correspond to the constant regions of the α and β chains of a native TCR truncated at their C termini such that the cysteine residues which form the native interchain disulfide bond of the TCR are excluded.

8. A scTCR as claimed in any of claims 1 to 5 wherein the constant region extracellular sequences present in the α and β segments correspond to the constant regions of the α and β chains of a native TCR in which cysteine residues which form the native interchain disulfide bond are substituted by another amino acid residue.

9. A scTCR as claimed in claim 8, wherein the said cysteine residues are substituted by serine or alanine.

10. A scTCR as claimed in any of the preceding claims wherein the linker sequence has the formula -P-AA-P- wherein P is proline and AA represents an amino acid sequence wherein the amino acids are glycine and serine.

11. A scTCR as claimed in any of the preceding claims wherein the linker sequence links the C terminus of the α domain to the N terminus of the β domain.

12. A scTCR as claimed in claim 11 wherein the linker sequence consists of from 26 to 41 amino acids.

13. A scTCR as claimed in claim 11 wherein the linker sequence consists of 29, 30, 31 or 32 amino acids.

14. A scTCR as claimed in claim 11 wherein the linker sequence consists of 33, 34, 35 or 36 amino acids.

15. A scTCR as claimed in claim 11 wherein the linker sequence is -PGGG-$(SGGGG)_5$-P- wherein P is proline, G is glycine and S is serine.

16. A scTCR as claimed in claim 11 wherein the linker sequence is -PGGG-$(SGGGG)_6$-P- wherein P is proline, G is glycine and S is serine.

17. A sTCR as claimed in any of the preceding claims in which an unpaired cysteine residue present in native TCR β chain is not present.

18. A scTCR as claimed in any preceding claim, wherein the constant region extracellular sequence of the α segment includes a sequence corresponding corresponds to TRAC*01 and the β segment includes a sequence corresponding to TRBC1*01 or TRBC2*01, and the said non-native disulfide bond is between cysteine residues substituted for Thr 48 of exon 1 of TRAC*01 and Ser 57 of exon 1 of TRBC1*01 or TRBC2*01.

19. A scTCR as claimed in any one of claims 1 to 18, wherein a disulfide bond links cysteine residues substituted for Thr 45 of exon 1 of TRAC*01 and Ser 77 of exon 1 of TRBC1*01 or TRBC2*01.

20. A scTCR as claimed in any one of claims 1 to 18, wherein a disulfide bond links cysteine residues substituted for Tyr 10 of exon 1 of TRAC*01 and Ser 17 of exon 1 of TRBC1*01 or TRBC2*01.

21. A scTCR as claimed in any one of claims 1 to 18, wherein a disulfide bond links cysteine residues substituted for Thr 45 of exon 1 of TRAC*01 and Asp 59 of exon 1 of TRBC1*01 or TRBC2*01.

22. A scTCR as claimed in any one of claims 1 to 18, wherein a disulfide bond links cysteine residues substituted for Ser 15 of exon 1 of TRAC*01 and Glu 15 of exon 1 of TRBC1*01 or TRBC2*01.

23. A scTCR as claimed in any of the preceding claims, wherein the TCR α and β chain variable region sequences present in the α and β segments together correspond to the functional variable domain of a first TCR, and the TCR α and β chain constant region extracellular sequences present in the α and β segments correspond to those of a second TCR, the first and second TCRs being from the same species.

24. A scTCR as claimed in any of claims 1 to 22, wherein the TCR α and β chain variable region sequences present in the α and β segments together correspond to the functional variable domain of a first TCR, and the TCR α and β chain constant region extracellular sequences present in the α and β segments correspond to those of a second TCR, the first and second TCRs being from different species.

25. A scTCR as claimed in claim 24 wherein the TCR α and β chain variable region sequences present in the α and β segments together correspond to the functional variable domain of a human TCR, and the TCR α and β chain constant region extracellular sequences present in the α and β segments correspond to those of a mouse TCR.

26. A scTCR as claimed in claims 1 to 24 wherein the TCR is one which binds a peptide MHC complex.

27. A scTCR as claimed in claim 25 wherein the TCR is one which binds a CD1-antigen complex.

28. A scTCR as claimed in claims 1 to 24 wherein the TCR is one which binds a superantigen or a peptide- MHC/superantigen complex.

29. A multivalent T cell receptor (TCR) complex comprising a plurality of sTCRs as claimed in any preceding claim.

30. A scTCR as claimed in any of claims 1 to 28 or a complex as claimed in claim 30 which is covalently linked to a therapeutic agent.

31. A scTCR as claimed in any of claims 1 to 28 or 30, or a plurality thereof, when attached to a particle or bead.

3. A composition comprising a scTCR as claimed in any of the preceding claims and a pharmaceutically acceptable carrier.

33. A method for detecting a TCR ligand selected from MHC-peptide complexes, CD1-antigen complexes, superantigens and MHC-peptide/superantigen complexes which comprises: providing a scTCR as claimed in any one of claims 1 to 29, or a

plurality thereof; contacting the scTCR with the TCR ligand; and detecting binding of the scTCR to the ligand.

34. A method of identifying an inhibitor of the interaction between an scTCR as claimed in any one of claims 1 to 28, or a plurality thereof, and a TCR ligand selected from MHC-peptide complexes, CD1-antigen complexes, superantigens and MHC-peptide/superantigen complexes comprising contacting the scTCR with a scTCR ligand binding partner, in the presence of and in the absence of a test compound, and determining whether the presence of the test compound reduces binding of the scTCR to the TCR ligand, such reduction being taken as identifying an inhibitor.

35. A method of identifying a potential inhibitor of the interaction between an scTCR as claimed in any one of claims 1 to 28, or a plurality thereof, and a TCR ligand selected from MHC-peptide complexes, CD1-antigen complexes, superantigens and MHC-peptide/superantigen complexes comprising contacting the scTCR or scTCR ligand binding partner with a test compound and determining whether the test compound binds to the scTCR and/or the TCR ligand, such binding being taken as identifying a potential inhibitor.

36. A nucleic acid molecule comprising a sequence encoding a scTCR as claimed in any one of claims 1 to 28, or a sequence complementary thereto.

37. A vector comprising a nucleic acid molecule as claimed in claim 36.